STN- Structure Search
4-15-05

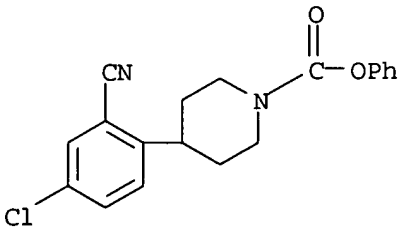
(Inventor)=> d ibib abs hitstr 1-12

L4 ANSWER 1 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:946564 CAPLUS
DOCUMENT NUMBER: 142:93647
TITLE: An efficient synthesis of a highly functionalized 4-arylpiperidine
AUTHOR(S): Boice, Genevieve N.; Savarin, Cecile G.; Murry, Jerry A.; Conrad, Karen; Matty, Louis; Corley, Edward G.; Smitrovich, Jacqueline H.; Hughes, Dave
CORPORATE SOURCE: Department of Process Research, Merck Research Laboratories, Merck & Co., Rahway, NJ, 07065, USA
SOURCE: Tetrahedron (2004), 60(50), 11367-11374
CODEN: TETRAB; ISSN: 0040-4020
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

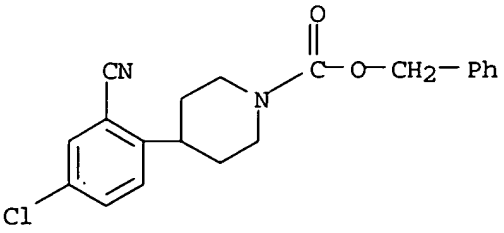
AB In this manuscript, an efficient synthesis of a functionalized 4-arylpiperidine is disclosed. Several synthetic approaches towards formation of the key aryl-piperidine sp3 carbon-carbon bond are discussed, including a scalable route to the piperidine via reaction of acylpyridinium ions with aryl Grignard reagents to form the corresponding dihydropyridines. Methods to access the BOC protected piperidine through dihydropyridine intermediates are described.

IT **757976-80-0P 757976-86-6P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of highly functionalized 4-arylpiperidines)

RN 757976-80-0 CAPLUS
CN 1-Piperidinecarboxylic acid, 4-(4-chloro-2-cyanophenyl)-, phenyl ester (9CI) (CA INDEX NAME)



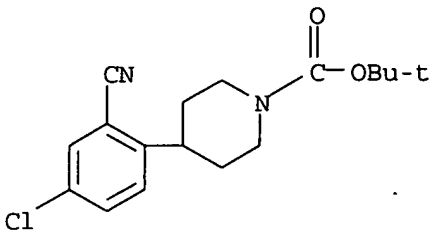
RN 757976-86-6 CAPLUS
CN 1-Piperidinecarboxylic acid, 4-(4-chloro-2-cyanophenyl)-, phenylmethyl ester (9CI) (CA INDEX NAME)



IT **732275-75-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of highly functionalized 4-arylpiperidines)

RN 732275-75-1 CAPLUS

CN 1-Piperidinecarboxylic acid, 4-(4-chloro-2-cyanophenyl)-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



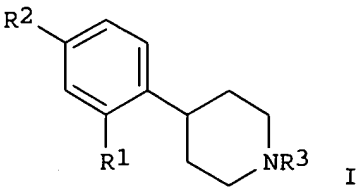
REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

2 verify

L4 ANSWER 2 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:759873 CAPLUS
DOCUMENT NUMBER: 141:277502
TITLE: Preparation of 4-arylpiperidines via reaction of arylmagnesium halides with pyridinium salts.
INVENTOR(S): Boice, Genevieve N.; Conrad, Karen M.; Corley, Edward G.; Matty, Louis; Murry, Jerry A.; Savarin, Cecile G.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 20 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
US 2004181070	A1	20040916	US 2004-795840		20040308
PRIORITY APPLN. INFO.:			US 2003-453454P	P	20030310

OTHER SOURCE(S): CASREACT 141:277502; MARPAT 141:277502
GI



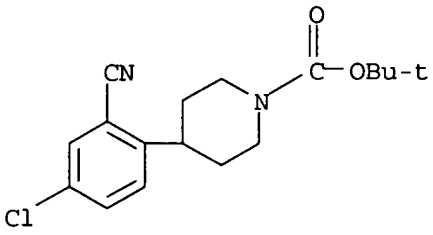
I

AB Title compds. [I; R1 = cyano, CO2H, alkylcarbonyl, etc.; R2 = H, F, Cl, NO2, CF3, CH2CF3, OCF3, OCH2CF3, alkyl, (substituted) phenylalkyl, naphthylalkyl, heteroarylalkyl, cycloalkylalkyl, amino, etc.; R3 = (substituted) PhO2C, PhCH2CO, Me2CHO2C, EtO2C, Me2CHCH2O2C], were prepared by halogenation of 3-R2C6H4R1, formation of the Grignard reagent, reaction of the Grignard reagent with the appropriate pyridinium salt, and reduction of the resulting dihydropyridine derivative Thus, 2-bromo-5-chlorobenzonitrile (preparation given) in THF at -35° was treated with Me2CHMgBr; the resulting arylgrignard reagent was added to a mixture prepared from copper iodide, pyridine, and benzyl chloroformate in THF at <5° followed by stirring at 0° for 30 min. to give the dihydropyridine, which was hydrogenated in PhMe in the presence of Wilkinson's catalyst at

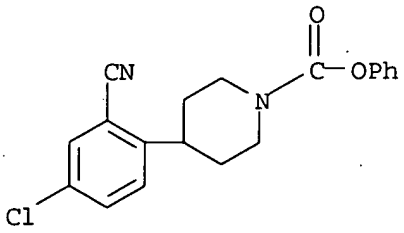
75° and 40 psi H2 for 5.5 h to give benzyl 4-(4-chloro-2-cyanophenyl)piperidine-1-carboxylate.

IT **732275-75-1P 757976-80-0P 757976-86-6P**
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(preparation of arylpiperidines via reaction of arylmagnesium halides with pyridinium salts)

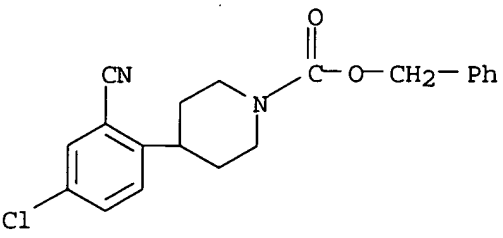
RN 732275-75-1 CAPLUS
CN 1-Piperidinecarboxylic acid, 4-(4-chloro-2-cyanophenyl)-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



RN 757976-80-0 CAPLUS
CN 1-Piperidinecarboxylic acid, 4-(4-chloro-2-cyanophenyl)-, phenyl ester (9CI) (CA INDEX NAME)



RN 757976-86-6 CAPLUS
CN 1-Piperidinecarboxylic acid, 4-(4-chloro-2-cyanophenyl)-, phenylmethyl ester (9CI) (CA INDEX NAME)

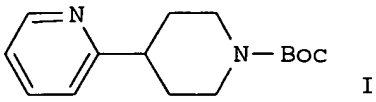


L4 ANSWER 3 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:511300 CAPLUS
DOCUMENT NUMBER: 141:174054
TITLE: Direct synthesis of 4-arylpiperidines via palladium/copper(I)-cocatalyzed Negishi coupling of a 4-piperidylzinc iodide with aromatic halides and triflates
AUTHOR(S): Corley, Edward G.; Conrad, Karen; Murry, Jerry A.; Savarin, Cecile; Holko, Justin; Boice, Genevieve

CORPORATE SOURCE: Departments of Process Research, and Chemical Engineering Research & Development, Merck Research Laboratories, Merck and Co., Inc., Rahway, NJ, 07065, USA

SOURCE: Journal of Organic Chemistry (2004), 69(15), 5120-5123
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 141:174054

GI

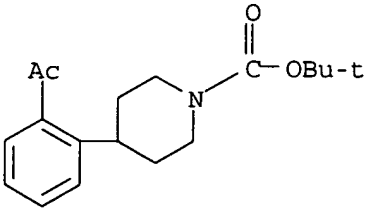


I

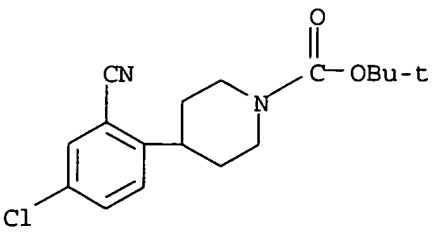
AB A general procedure for the synthesis of 4-arylpiperidines, e.g., I, via the coupling of 4-(N-Boc-piperidyl)zinc iodide with aryl halides and triflates is presented. The reaction required cocatalysis with both Cl2Pd(dppf) and a copper(I) species. An improved, safer procedure for the activation of zinc dust is also presented.

IT **255050-91-0P 732275-75-1P 732275-94-4P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of N-(Boc)-arylpiperidines via addition of zinc to N-(Boc)-iodopiperidine followed by palladium/copper-catalzyed Negishi coupling with aryl halides and triflates)

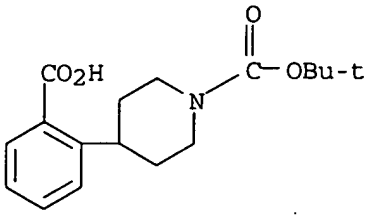
RN 255050-91-0 CAPLUS
CN 1-Piperidinecarboxylic acid, 4-(2-acetylphenyl)-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



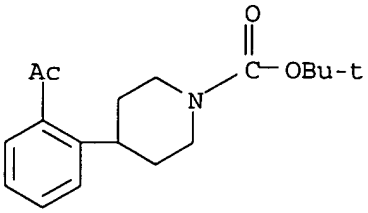
RN 732275-75-1 CAPLUS
CN 1-Piperidinecarboxylic acid, 4-(4-chloro-2-cyanophenyl)-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



RN 732275-94-4 CAPLUS
CN 1-Piperidinecarboxylic acid, 4-(2-acetyl-4-chlorophenyl)-,



IT **255050-91-0P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of N-substituted naphthalenecarboxamides as neurokinin-receptor antagonists)
RN 255050-91-0 CAPLUS
CN 1-Piperidinecarboxylic acid, 4-(2-acetylphenyl)-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1995:951172 CAPLUS
DOCUMENT NUMBER: 124:8627
TITLE: Preparation of piperidines, pyrrolidines and hexahydro-1H-azepines which promote the release of growth hormone
INVENTOR(S): Morriello, Gregori J.; Patchett, Arthur A.; Yang, Lihu; Chen, Meng H.; Nargund, Ravi
PATENT ASSIGNEE(S): Merck and Co., Inc., USA
SOURCE: PCT Int. Appl., 417 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 6
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9513069	A1	19950518	WO 1994-US12816	19941107
W: AM, AU, BB, BG, BR, BY, CA, CN, CZ, EE, FI, GE, HU, JP, KG, KR, KZ, LK, LR, LT, LV, MD, MG, MN, NO, NZ, PL, RO, RU, SI, SK, TJ, TT, UA, US, US, US, UZ				
RW: KE, MW, SD, SZ, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5492916	A	19960220	US 1994-323988	19941017
US 5492920	A	19960220	US 1994-323998	19941017
US 5494919	A	19960227	US 1994-323994	19941017

AU 9511729	A1	19950529	AU 1995-11729		19941107
EP 739204	A1	19961030	EP 1995-902467		19941107
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE					
BR 9408019	A	19970826	BR 1994-8019		19941107
JP 10506091	T2	19980616	JP 1994-513932		19941107
US 5622973	A	19970422	US 1995-464982		19950605
FI 9601951	A	19960508	FI 1996-1951		19960508
NO 9601865	A	19960708	NO 1996-1865		19960508
PRIORITY APPLN. INFO.:			US 1993-149441	A	19931109
			US 1993-165149	A	19931210
			US 1993-173449	A	19931223
			US 1994-323988	A	19941017
			US 1994-323994	A2	19941017
			US 1994-323998	A	19941017
			US 1994-328988	A3	19941017
			WO 1994-US12816	W	19941107

OTHER SOURCE(S): MARPAT 124:8627
GI

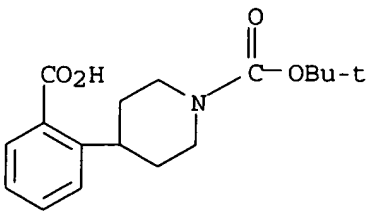
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The title compds. [I; A = (un)substituted alkylene; R1 = (un)substituted alkyl, (un)substituted aryl, (un)substituted heteroaryl, (un)substituted Ph, (un)substituted naphthyl, etc.; R3 = H, phenylalkyl, naphthylalkyl, alkyl, cycloalkyl, halogen, etc.; R4, R5 = H, (un)substituted alkyl; W = H, CN, (un)substituted CO2H, (un)substituted CONH2, etc.; X = H, CN, (un)substituted aminoalkyl, etc; Y = H, (un)substituted alkyl, arylalkyl, etc.; n = 1-3] (e.g., II), which promote the release of growth hormone in humans and animals (no data) and can be utilized to promote the growth of food animals to render the production of edible meat products more efficiently (no data), and in humans to treat physiol. or medical conditions characterized by a deficiency in growth hormone secretion (no data), are prepared I-containing growth hormone-releasing formulations are claimed.

IT **170838-26-3P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of piperidines, pyrrolidines and hexahydro-1H-azepines which promote the release of growth hormone)

RN 170838-26-3 CAPLUS

CN 1-Piperidinecarboxylic acid, 4-(2-carboxyphenyl)-, 1-(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)



=> d his

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L3             11 S L1 FULL

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L4             12 S L3

=> d l1
L1 HAS NO ANSWERS
L1                STR
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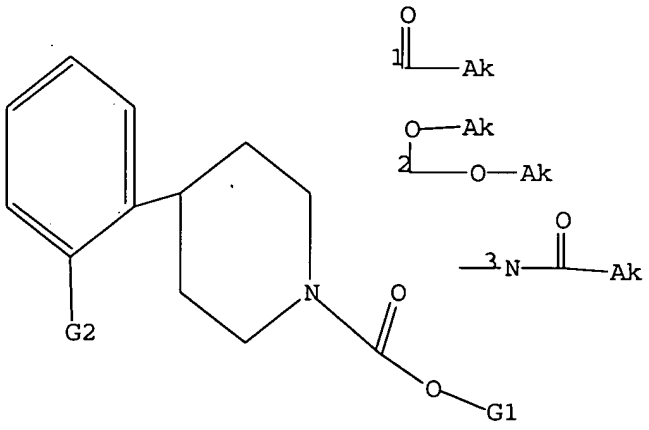

G1 Cb,Ak

G2 COOH,CN,[@1],[@2],[@3]

Structure attributes must be viewed using STN Express query preparation.

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